

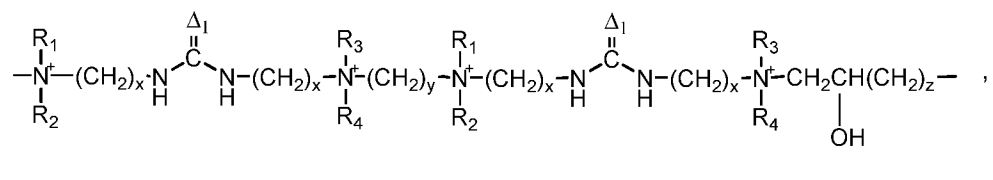
# **Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application.

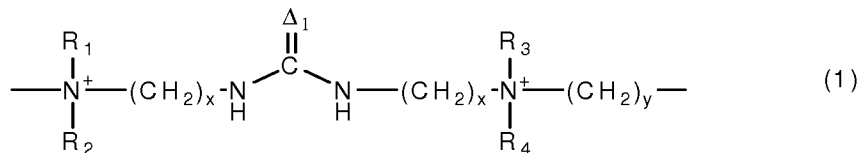
## **Listing of Claims:**

**Claim 1 (Currently Amended):** A zinc or zinc alloy electroplating bath comprising:

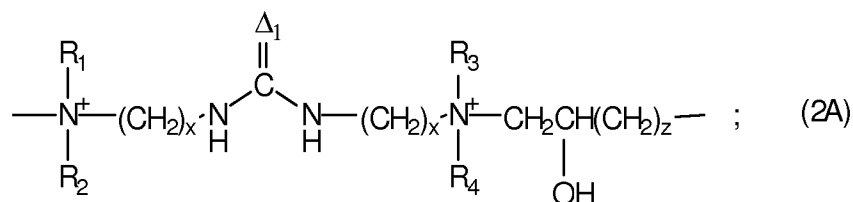
zinc ions and a brightening agent, the brightening agent comprising at least one polyamine that includes the following formula,



the at least one polyamine consisting essentially of a first repeating unit that has the general formula:

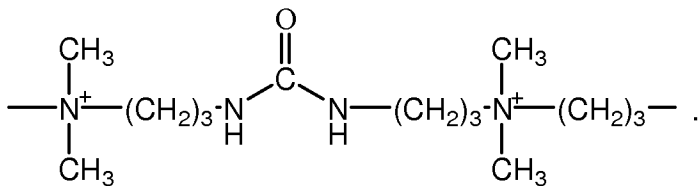


and a second repeating unit that has the general formula:

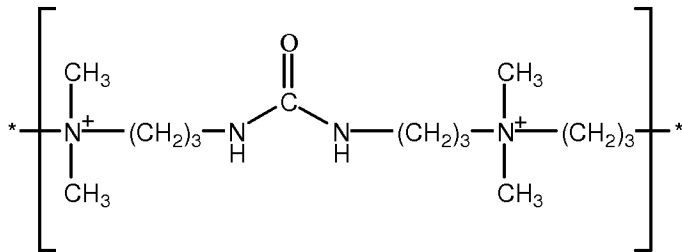


CH<sub>2</sub>CH<sub>2</sub>(OCH<sub>2</sub>CH<sub>2</sub>)<sub>m</sub>OH; and m is a number between 0-6; wherein the first repeating unit and the second repeating unit are in the same polymer chain.

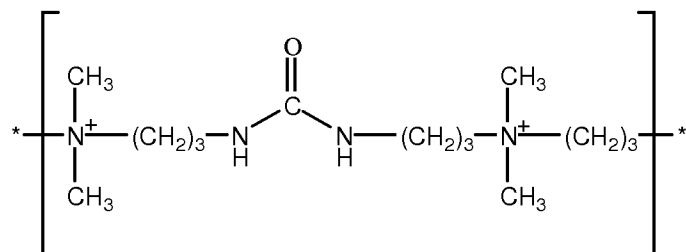
**Claim 2 (Original):** The zinc or zinc alloy electroplating bath of claim 1, the first repeating unit having the following formula:



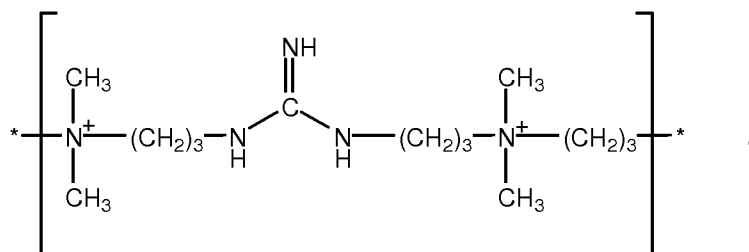
**Claim 3 (Withdrawn):** The zinc or zinc alloy plating bath of claim 1, the brightening agent comprising a mixture of polyamines, the mixture of polyamines including a first polyamine of the general formula:



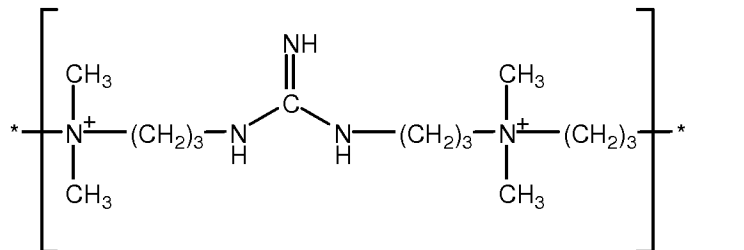
and a second polyamine of the general formula:



**Claim 4 (Withdrawn):** The zinc or zinc alloy plating bath of claim 1, the brightening agent comprising a mixture of polyamines, the mixture of polyamines including a first polyamine of the general formula:

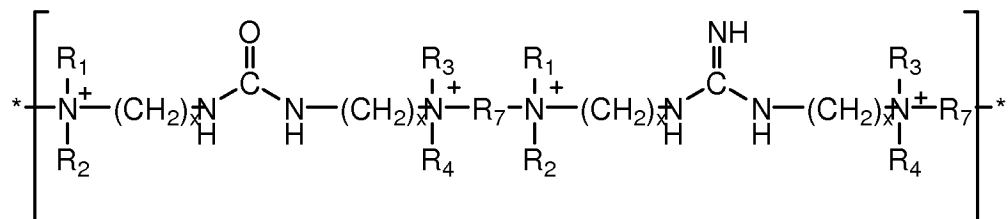


and a second polyamine of the general formula:



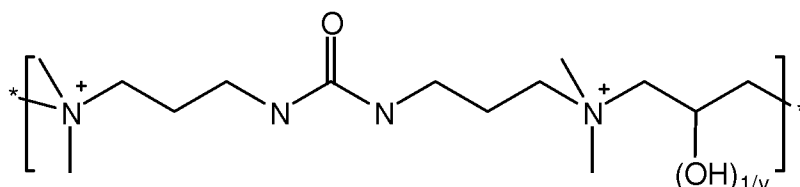
**Claim 5 (Cancelled):**

**Claim 6 (Withdrawn):** The zinc or zinc alloy electroplating bath of claim 1,  
the polyamine having the following general formula:



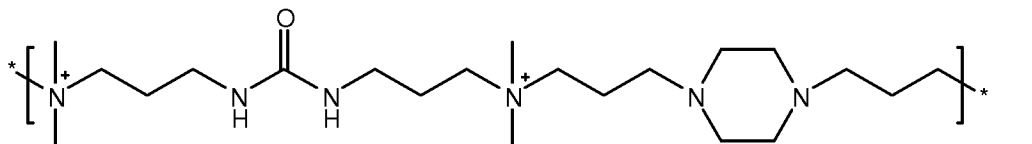
where  $R_7$  is an alkylene group.

**Claim 7 (Original):** The zinc or zinc alloy electroplating bath of claim 1, the polyamine having the following general formula:

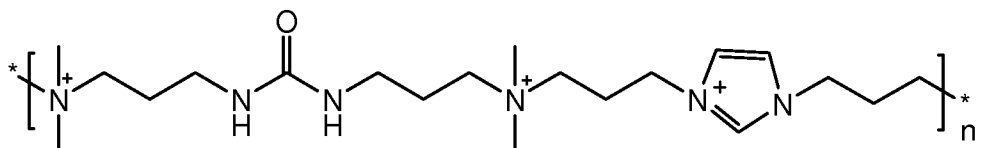


where v is an integer greater than 1.

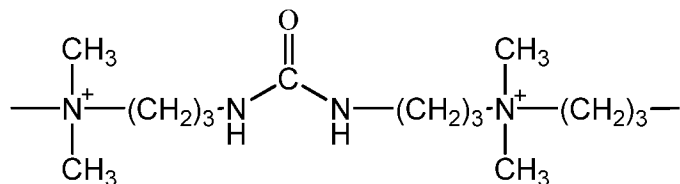
**Claim 8 (Withdrawn):** The zinc or zinc alloy electroplating bath of claim 1, the polyamine having the following general formula:



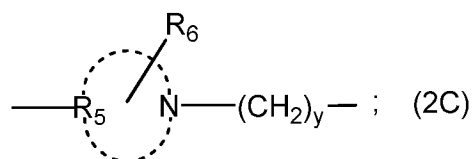
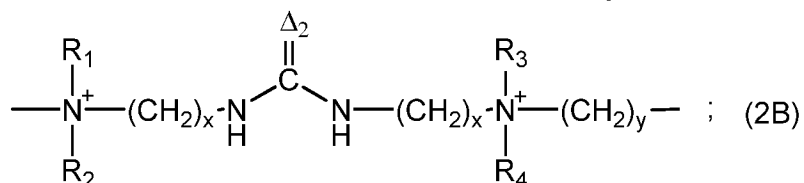
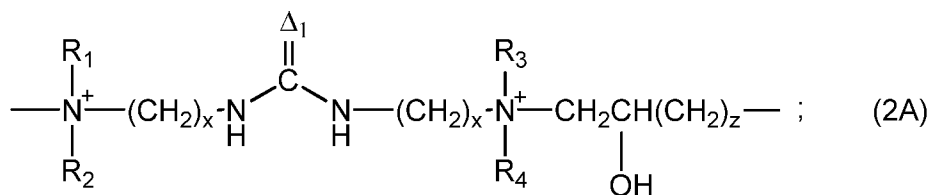
**Claim 9 (Withdrawn):** The zinc or zinc alloy electroplating bath of claim 1, the polyamine having the following general formula:



**Claim 10 (Withdrawn):** A zinc or zinc alloy electroplating bath comprising:  
zinc ions and a brightening agent, the brightening agent comprising at least one polyamine or a mixture of polyamines, the at least one polyamine or mixture of polyamines including a first repeating unit that has the general formula:



and a second repeating unit selected from the group consisting of:

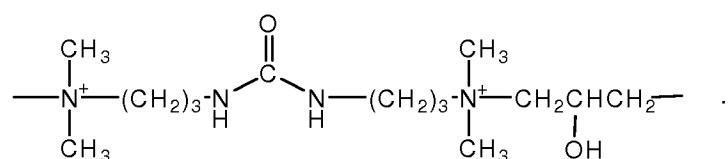


and combinations thereof;

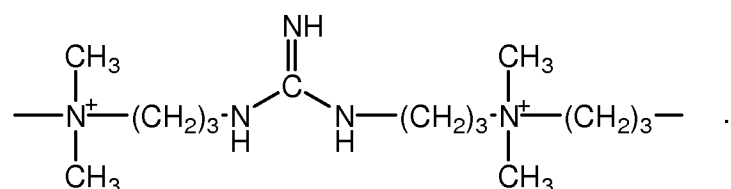
where  $\Delta_1$  is O, N, or S;  $\Delta_2$  is O, N, or S, and  $\Delta_2 \neq \Delta_1$ ; x is an integer from 2 to 6; y is an integer from 1 to 6; z is an integer from 1 to 6;  $R_1$ ,  $R_2$ ,  $R_3$ , and  $R_4$ , which is the same or different, is methyl, ethyl, isopropyl, n-propyl, hydroxyethyl, or  $-\text{CH}_2\text{CH}_2(\text{OCH}_2\text{CH}_2)_m\text{OH}$ ; m is a number between 0-6;  $R_5$  represents a group of atoms necessary to complete a heterocyclic compound having a five or six membered ring containing at least two nitrogen atoms, and  $R_6$  is nothing or an alkyl

group, wherein the first repeating unit and the second repeating unit are in the same polymer chain.

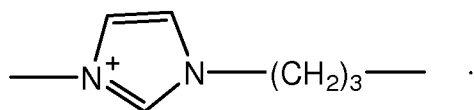
**Claim 11 (Withdrawn):** The zinc or zinc alloy electroplating bath of claim 10, the second repeating unit comprising:



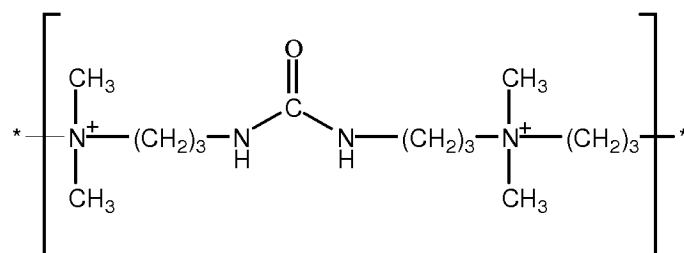
**Claim 12 (Withdrawn):** The zinc or zinc alloy electroplating bath of claim 10, the second repeating unit comprising:



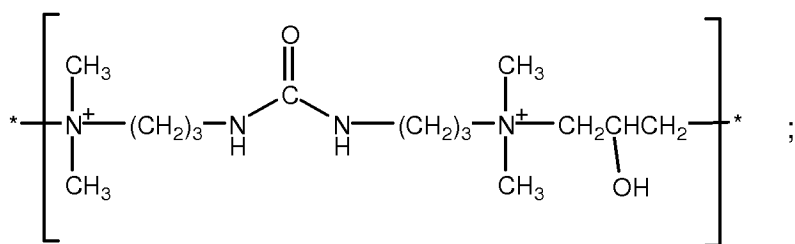
**Claim 13 (Withdrawn):** The zinc or zinc alloy electroplating bath of claim 10, the second repeating unit comprising:



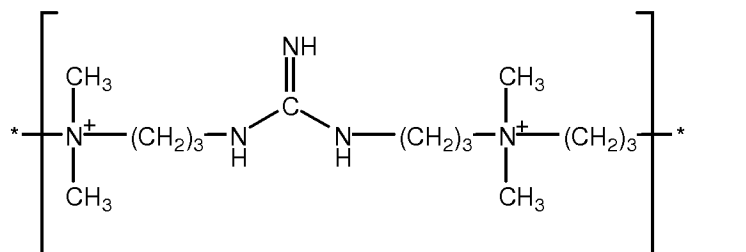
**Claim 14 (Withdrawn):** The zinc or zinc alloy plating bath of claim 10, the brightening agent comprising a mixture of polyamines, the mixture of polyamines including a first polyamine of the general formula:



and a second polyamine selected from the group consisting of:



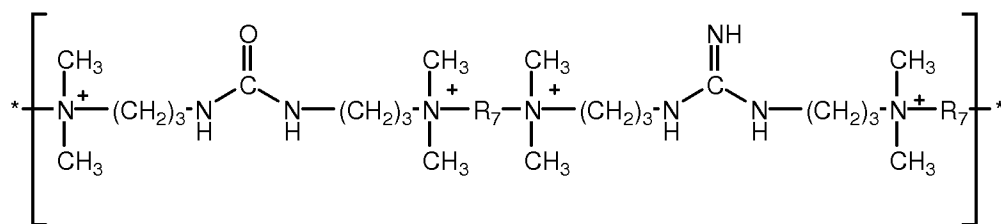
and



**Claim 15 (Cancelled)**

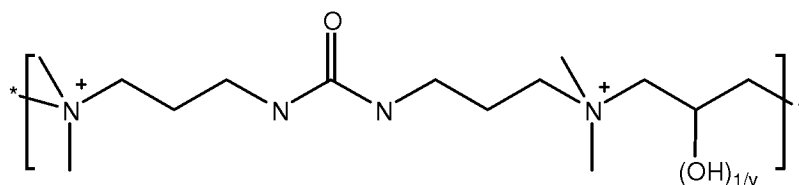
**Claim 16 (Withdrawn):** The zinc or zinc alloy electroplating bath of claim 10,  
the polyamine having the following general formula:





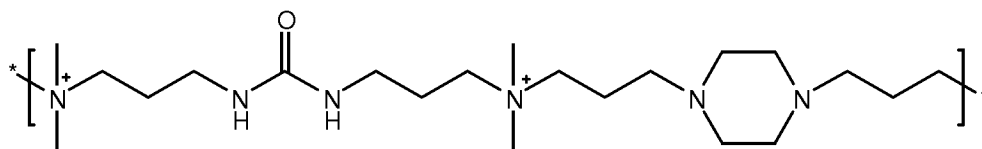
where R<sub>7</sub> is an alkylene group.

**Claim 17 (Withdrawn):** The zinc or zinc alloy electroplating bath of claim 10,  
the polyamine having the following general formula:

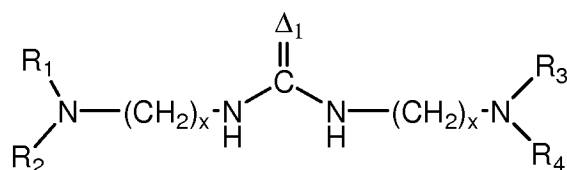


where v is an integer greater than 1.

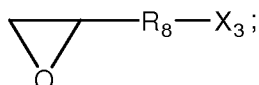
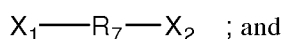
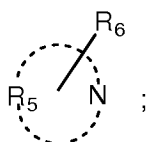
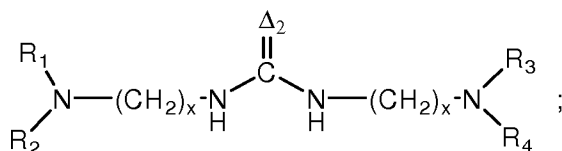
**Claim 18 (Withdrawn):** The zinc or zinc alloy electroplating bath of claim 10,  
the polyamine having the following general formula:



**Claim 19 (Withdrawn):** A brightening agent for an alkaline zinc or zinc alloy electroplating bath, the brightening agent comprising a copolymer of a first monomer having the following formula:



and a second monomer comprising at least two of the following compounds selected from the group consisting of:



where  $\Delta_1$  is O, N, or S;  $\Delta_2$  is O, N, or S, and  $\Delta_2 \neq \Delta_1$ ; x is an integer from 2 to 6;  $R_1$ ,  $R_2$ ,  $R_3$ , and  $R_4$ , which is the same or different, is methyl, ethyl, isopropyl, n-propyl, hydroxyethyl, or  $-\text{CH}_2\text{CH}_2(\text{OCH}_2\text{CH}_2)_m\text{OH}$ ; m is a number between 0-6;  $R_5$  represents a group of atoms necessary to complete a heterocyclic compound having

a five or six membered ring containing at least two nitrogen atoms;  $R_6$  is nothing or an alkyl group;  $R_7$  and  $R_8$ , which may be the same or different, is an alkylene group; and  $X_1$ ,  $X_2$ , and  $X_3$ , which is the same or different, is a halogen.